FutureMask
Toppan Technology Forum 2007

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The Power is in the Mask.

User Guide for K2_Viewer

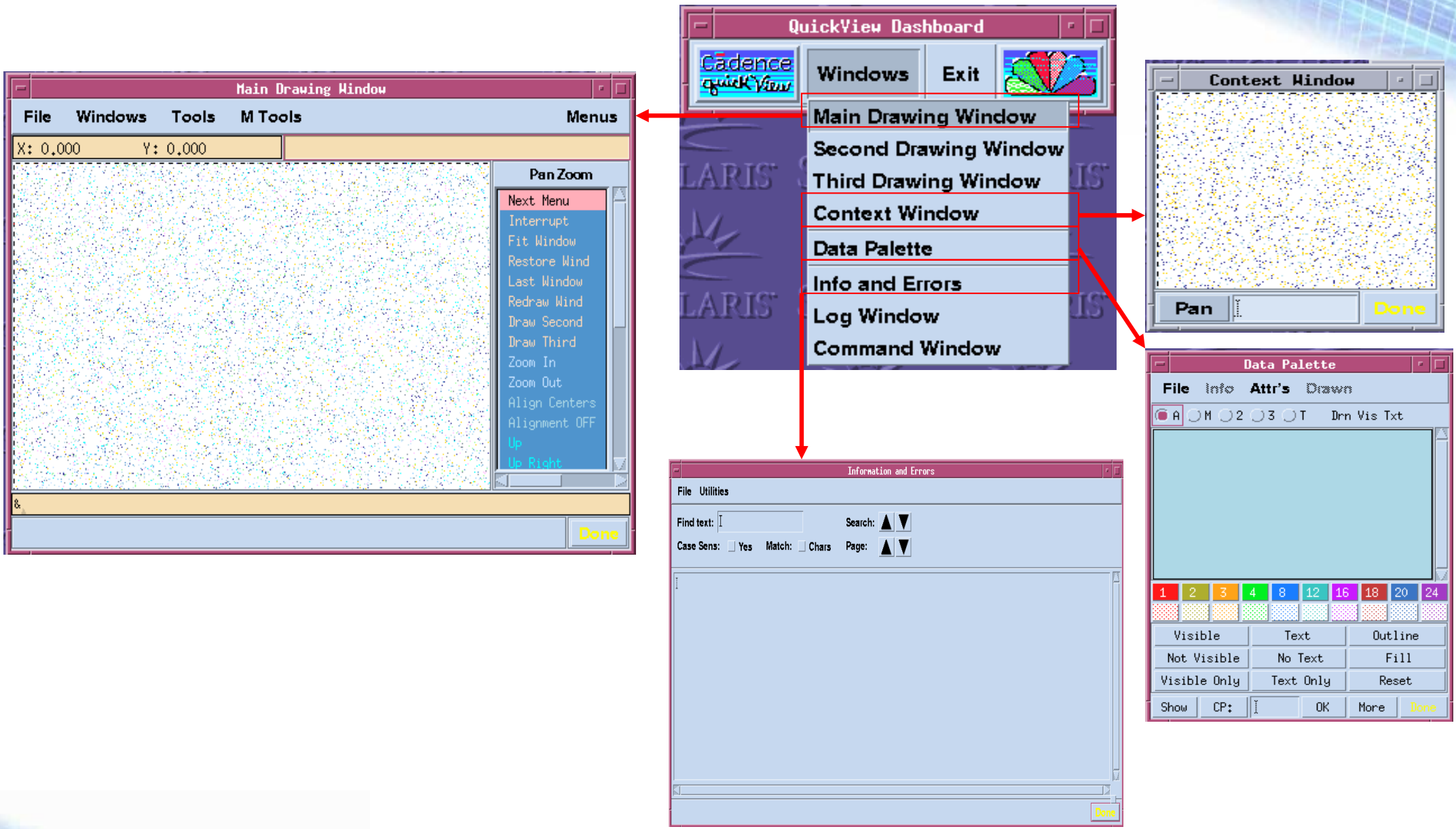
TCE/CAD

2007/11/16

Introduction

- Screen Configuration Description
- How to Display JOBDECK
- How to Composite Display of Files
- How to Measurement

Description on Screen Configuration



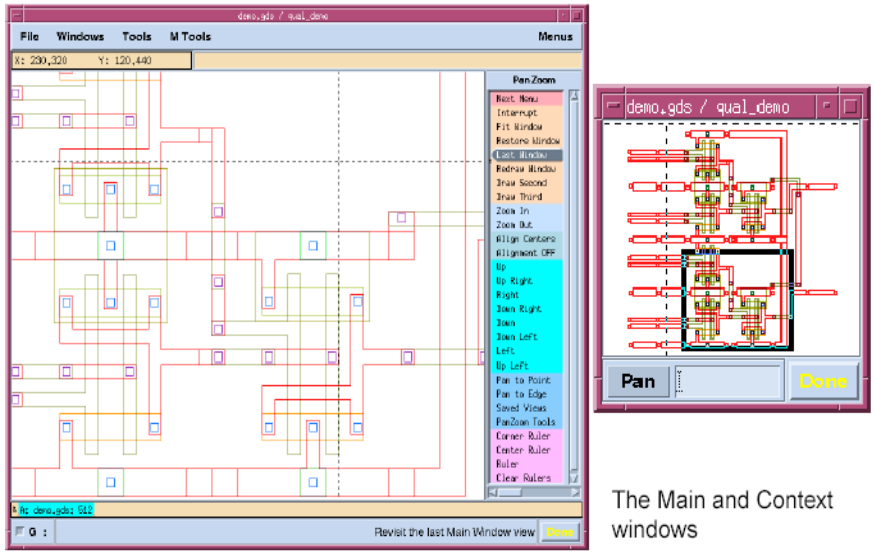
2007/11/16

The Dashboard

The Dashboard appears on your screen when you invoke QuickView. It can also be opened or brought forward from the Windows pull-down of the Main Drawing window. It has the following functions:

- The Cadence Logo button on the left opens a display of version numbers and copyright and trademark notices.
- The Windows pull-down opens the Main Drawing window, the Context window, the Data Palette, the Information and Errors window and the Command window.
- The Exit button terminates QuickView. A pull-down allows you to confirm your exit request.
- The Colors Icon button on the right opens the Color Palette.

The Drawing Windows



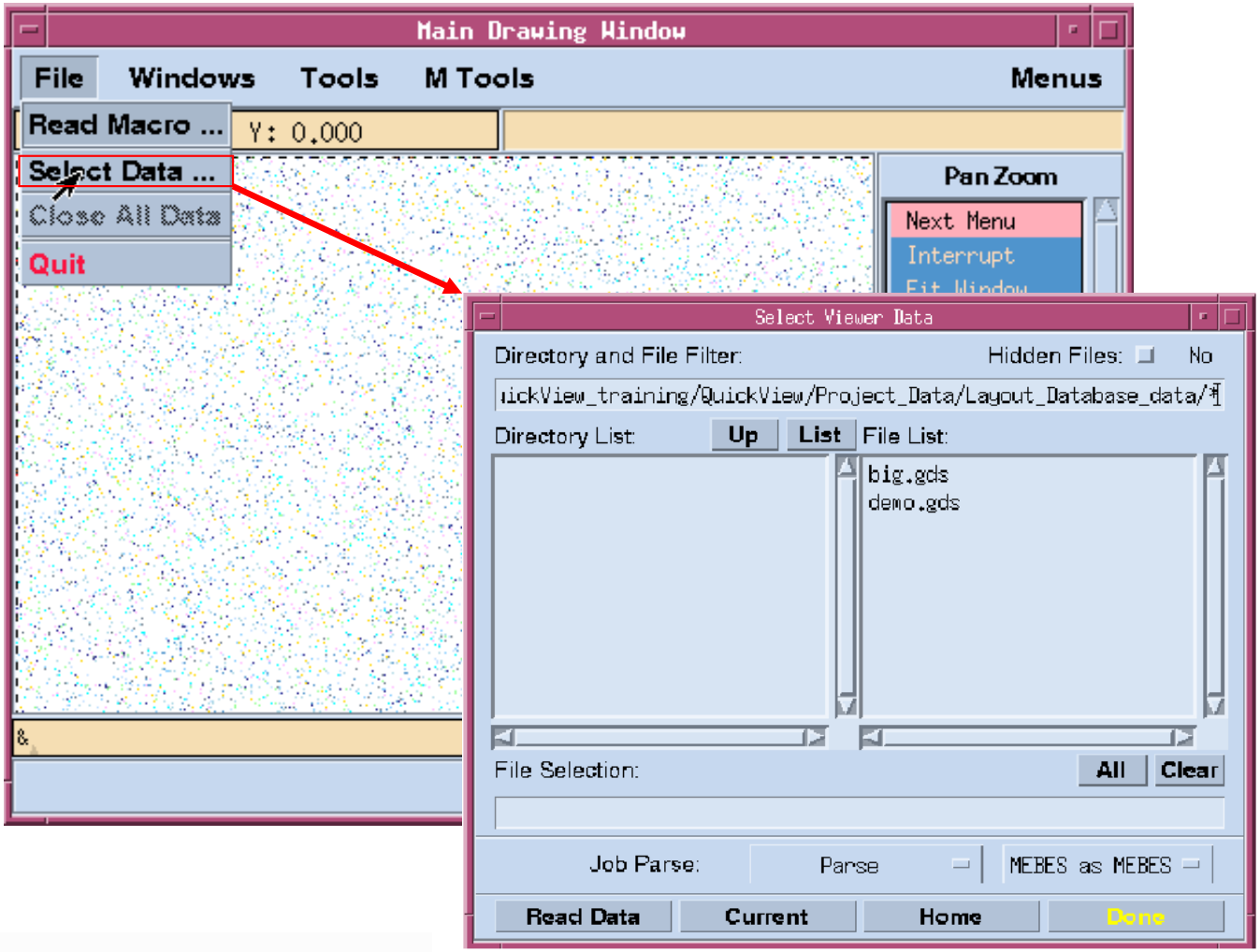
The Main and Context windows

Two drawing windows, the Main Drawing window and the Context window, appear on your screen when you invoke QuickView. You can also open either window or bring it forward from the Windows pull-down of the Dashboard. The Context window can also be opened from the Windows pull-down of the Main Drawing window.

The Main Drawing window is the main viewing area for data. The Context window provides a second viewing area.

The Context window is often used to maintain an overall view of data as you examine it in detail in the Main Drawing window. A superimposed rectangle identifies the subset of the Context window display which is currently drawn in the Main Drawing window.

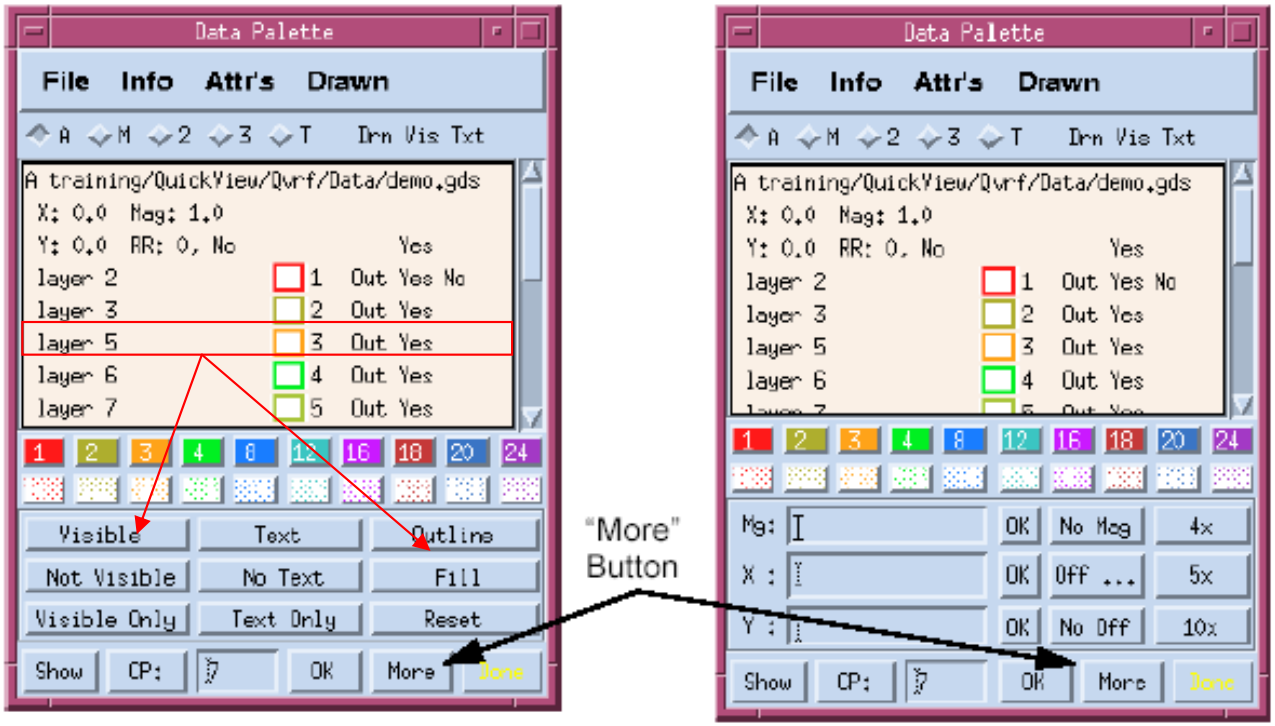
Step 1 : Open File (choose the file format you want)



You can access directories where layout database, pattern or job deck data is located and select the file or files that you wish to view.

Step 2 : Setting the data palette window (1)

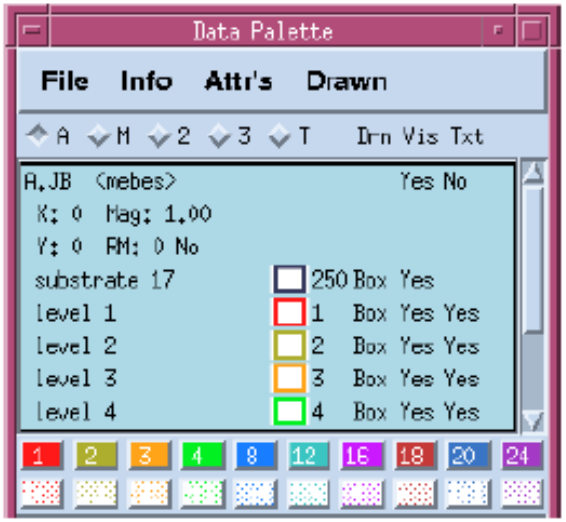
The Data Palette displays and maintains the QuickView draw list.


Data Palette
File Info Attr's Drawn
A M 2 3 T Drn Vis Txt
A training/QuickView/Qvrf/Data/demo.gds
X: 0.0 Mag: 1.0
Y: 0.0 RR: 0, No Yes
layer 2 1 Out Yes No
layer 3 2 Out Yes
layer 5 3 Out Yes
layer 6 4 Out Yes
layer 7 5 Out Yes
1 2 3 4 8 12 16 18 20 24
Visible Text Outline
Not Visible No Text Fill
Visible Only Text Only Reset
Show CP: OK More Done
"More" Button
Data Palette
File Info Attr's Drawn
A M 2 3 T Drn Vis Txt
A training/QuickView/Qvrf/Data/demo.gds
X: 0.0 Mag: 1.0
Y: 0.0 RR: 0, No Yes
layer 2 1 Out Yes No
layer 3 2 Out Yes
layer 5 3 Out Yes
layer 6 4 Out Yes
1 2 3 4 8 12 16 18 20 24
Mg: OK No Mag 4x
X : OK Off ... 5x
Y : OK No Off 10x
Show CP: OK More Done

The draw list also shows current draw Attributes for each item. Draw attributes Indicate whether or not items are “visible” And, if visible, what their appearance, Location and size should be when d drawn, Pull-down menus at the top of menu and Buttons and text fields at the bottom allow You to select and assign draw attributes .

Step 2 : Setting the data palette window (2)

Job Decks


Data Palette
File Info Attr's Drawn
A M 2 3 T Drn Vis Txt
A.JB <mebes> Yes No
X: 0 Mag: 1.00
Y: 0 RM: 0 No
substrate 17 250 Box Yes
level 1 1 Box Yes Yes
level 2 2 Box Yes Yes
level 3 3 Box Yes Yes
level 4 4 Box Yes Yes
1 2 3 4 8 12 16 18 20 24

Draw List for Job Decks

When you select a job deck for viewing, three or more lines are added to the Data Palette draw list and a parse command is issued.

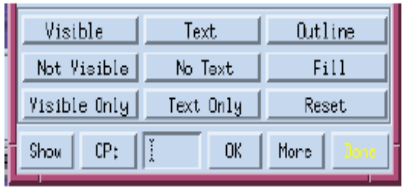
- The first three lines are the header. They show the job deck name, status and draw attributes for the job deck as a whole.

  While the job deck is being parsed, the status is shown as <mebes...> or <core...> depending on the parse command. If the parse succeeds, the status becomes <mebes ok> or <core ok>. If a different value appears, see Parsing Job Decks in Chapter 6, "Viewing Job Decks."

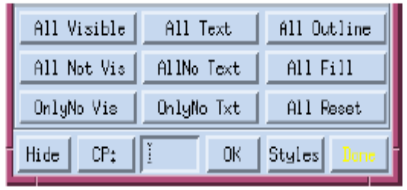
  When a job deck successfully parses, additional lines appear.

Step 2 : Setting the data palette window (3)

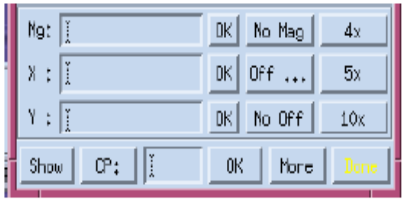
Setting Draw Attributes



Unshifted



Shifted



Draw attributes are values associated with items in the Data Palette draw list which indicate whether or not the items are visible and, if visible, what their appearance, size and location should be when drawn.

You may set or reset attribute values at any time:

1. Select (highlight) lines in the Data Palette draw list which are to receive attribute values.
   a. Select a single line or a three line header with ML.
   b. Select additional lines with <ctrl> ML.
   c. Select adjacent lines by holding ML or <shift> ML while moving the cursor across them.

Visible

The visible attribute determines whether or not a file and its listed components (layers and/or levels) can be drawn, queried and measured. Any file or component which is not visible is ignored.

- **All Visible** (<shift> Visible) and **All Not Vis** (<shift> Not Visible) assign the values Yes and No to all lines of a group which has at least one highlighted line.
- **Visible Only** assigns the value Yes to highlighted lines and the value No to all other lines of the same group(s).
- **OnlyNo Vis** (<shift> Visible Only) assigns the value No to highlighted lines and the value Yes to all other lines of the same group(s).

Drawn

The drawn attribute describes ways in which data can be drawn. There is a drawn attribute on most non-header lines. A value such as Out (Outline) or Fil (Fill) appears in the Data Palette column labeled Drn (Drawn).

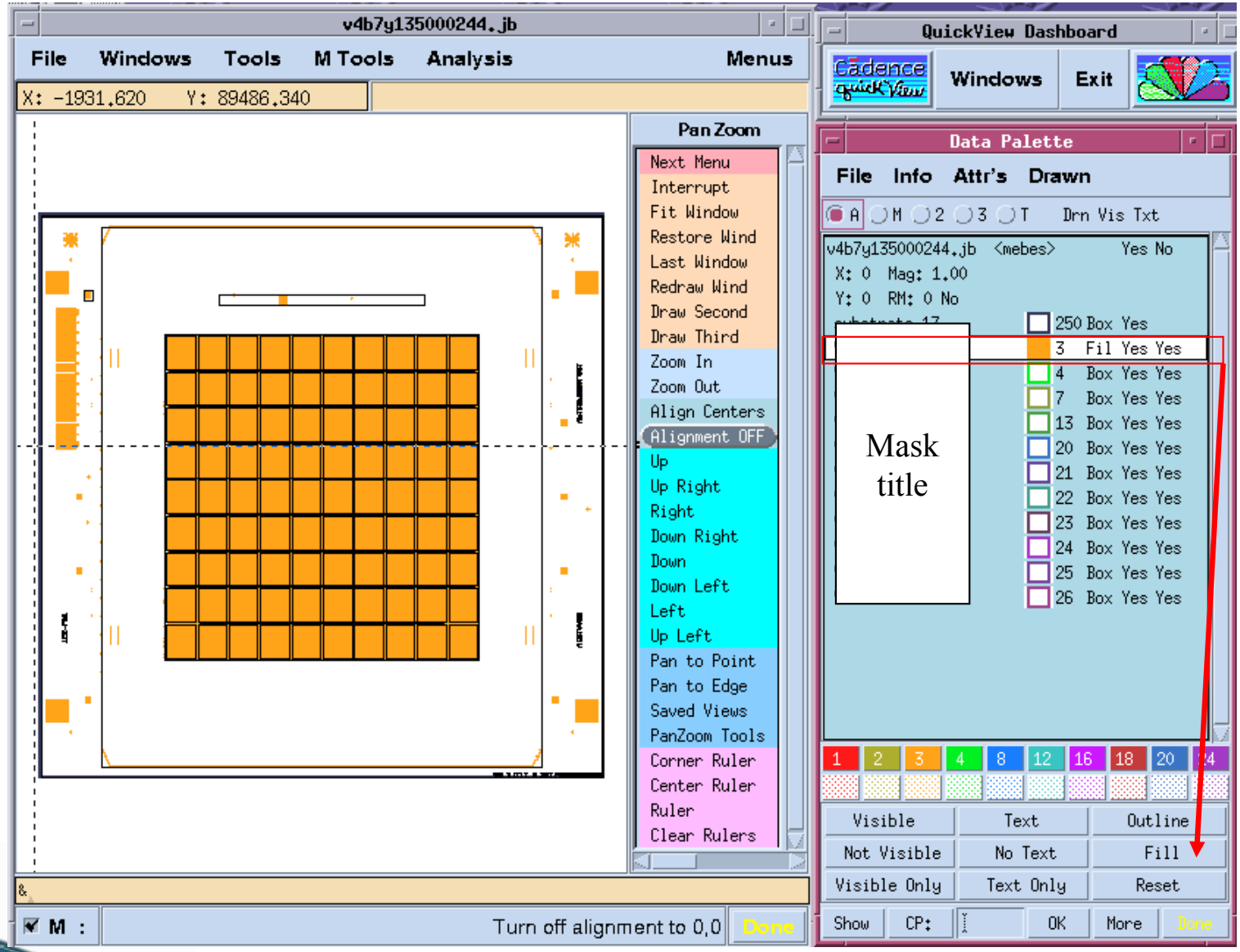
You can assign the values Outline and Fill by pressing the Outline or Fill buttons. You can assign Outline or Fill to a group of non-header lines by highlighting at least one line and pressing All Outline (<shift> Outline) or All Fill (<shift> Fill). Pressing MR on the layer list will toggle through the three items and Off.

Patterns and job decks also accept values which you can select from the Drawn pull-down.

The following list indicates which drawn values are appropriate for each type of pattern and job deck non-header line and explains what the values mean in each case. The three-character codes which are displayed in the Drn (Drawn) column are noted in parentheses.

- Outline (Out) draws outline data.
- Fill (Fil) draws filled data.

Step 2 : Setting the data palette window (4)



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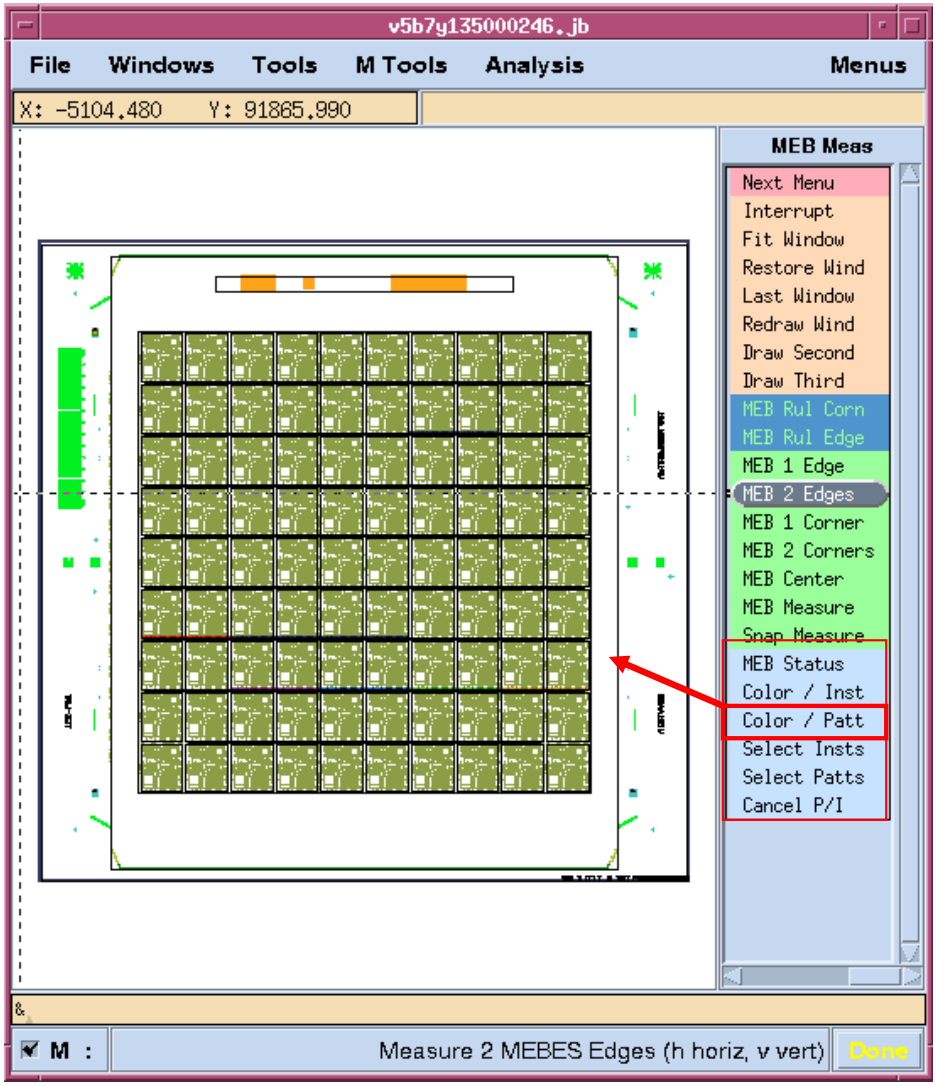
Step 3 : Color options



Job Patterns and Instances

Job pattern and instance commands allow you to assign unique colors or other attributes to job deck patterns and pattern instances which are displayed in the Main Drawing window. This can be helpful as you examine job pattern distribution, abutment or overlap.

Before using these commands, select the relevant job deck(s) and level(s) and draw them in the Main Drawing window. If the data is extensive, you may wish to zoom in to a particular area.

Job pattern and instance commands appear on the MEBES Measure Tracking menu.

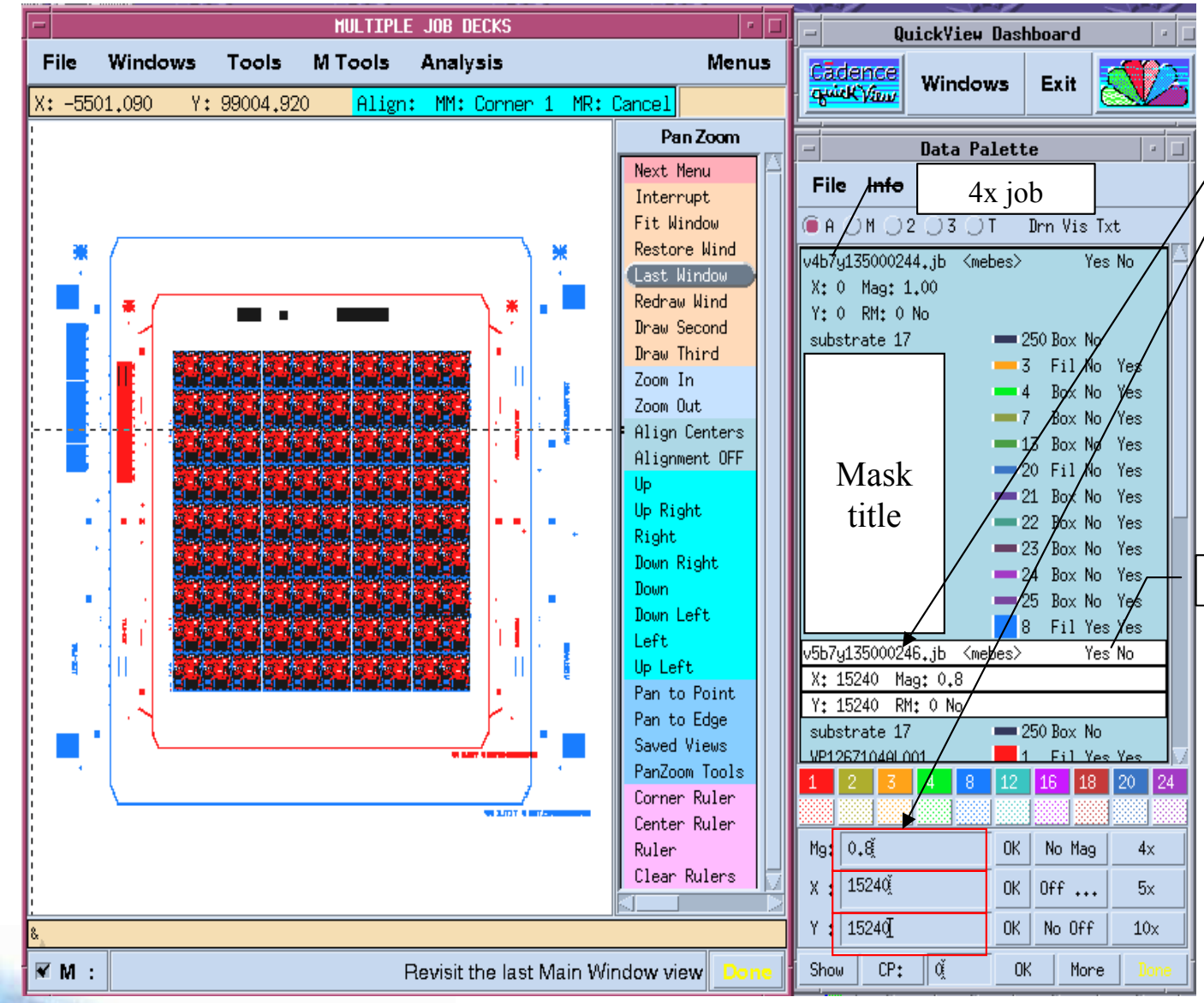
Color Per Pattern and **Color Per Instance** assign a unique color attribute to each pattern or pattern instance in the Main Drawing window.

- Press Color / Patt or Color / Inst. Then redraw the data.

  While either command is in effect, a list of patterns or instances appears in the Data Palette draw list under the heading JOB DECK PATTERNS or JOB DECK INSTANCES. You may treat this list as you would a list created by Select Patterns or Select Instances if you wish. See next.

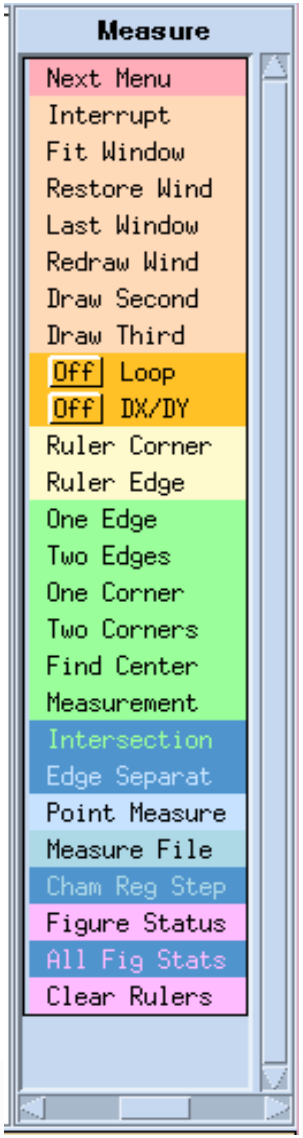
  Note: Color Per Pattern and Color Per Instance supersede any previous Color Per Pattern, Color Per Instance, Select Patterns and Select Instances commands.

How to Composite Display of Files (example : 4x vs 5x)



Step 1 : Load 4x and 5x JOBDECK
Step 2 : Select and Fill Layers
Step 3 : Click 5x JOBDECK Header
Step 4 : Set Mag. To 0.8 and click OK
Step 5 : Set Offset X : 15240
Step 6 : Set Offset Y : 15240
Step 7 : Fit Window

1. Measurement Options (1) .



Fit Window

Fit Window is ordinarily the first draw command. It displays all currently drawable data in the Main Drawing window or Context window. It scales the data to fill about 90% of the window.

Interrupt

The Interrupt command halts drawing activity or other commands which have duration.

Corners, Edges and Points

Corner and edge commands identify corners and edges and measure distances between them.

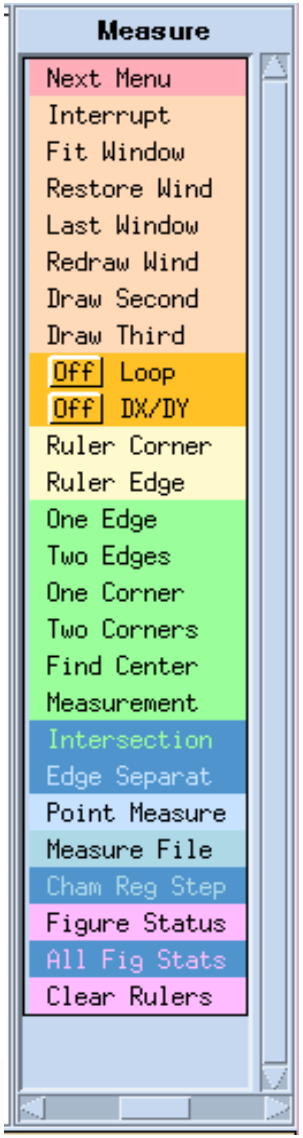
For layout database commands, an edge is an edge of a polygon or path. For Pattern & job deck commands, an edge is a trapezoid edge, a pattern limit line or substrate limit line. For both, a corner is a point where edges join.

Point commands use points that you select. They do not snap to nearby data. You can obtain useful information with point commands if you zoom in sufficiently close before you select points.

Corner, edge and point commands appear on the appropriate pattern & general Measure Tracking menus.

The measurements for the commands are also written into the Info and Errors window. More information is usually contained there, such as the exact coordinates of the edges selected. This facilitates saving information to a file. When the DX/DY toggle on the Measure Tracking menu is marked On (or the "dx_dy.mac" has been executed) prior to measurement, a running

1. Measurement Options (2) .



DX and DY readout is available in the lower status line. This facilitates measurement with the "One Corner" and "One Edge" commands explained next.

- **Ruler Corner and Ruler Edge** commands use a ruler, when placed, as the first coordinate.

  Press Ruler Corner or Ruler Edge to select a corner or edge and measure it relative to the placement of a ruler.

- **One Edge** queries an edge. It marks the edge and reports its location and length.
- **Two Edges** calculates the separation between two edges and the mid point between their centers. It marks the edges and reports the smallest horizontal, vertical or diagonal separation.
- **One Corner** queries a corner. It marks the corner and reports its location.
- **Two Corners** calculates the distance between two corners. It also identifies a point midway between two corners. It marks the corners and reports the horizontal, vertical or diagonal distance.
- **Find Center** determines the center of a figure. It marks the center and reports its location.
- **Measurement** (hot key **m**) measures between any two centers of polygons, centers of edges, corners or intersections. It marks the items and reports horizontal, vertical and diagonal distance. The hot keys that accompany this command make it very useful to position the cursor and use the keys.

  Press Measurement and select two items when prompted by placing the cursor on or near the item and identifying it as an edge (hot key **e**), horizontal (hot key **h**), vertical (hot key **v**), corner (hot key **c**), intersection (hot key **i**) or center (hot key **n**).

- **Intersection** identifies the point where two non-parallel edges join or intersect or where they would intersect if extended. It marks the intersection and reports the location.